

PROPOSED USE OF THE PLENARY POWERS TO DIRECT THAT
THE FAMILY-GROUP NAME "ORBULINIDAE" SCHULTZE,
1854, IS NOT TO BE GIVEN PRECEDENCE OVER
"GLOBIGERINIDAE" CARPENTER, PARKER AND JONES, 1862
(CLASS RHIZOPODA, ORDER FORAMINIFERA) BY AUTHORS
WHO REFER THE TWO TYPE GENERA TO THE SAME FAMILY-
GROUP TAXON

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The purpose of this proposal is to maintain the current usage of the family-group name GLOBIGERINIDAE Carpenter, Parker and Jones, 1862, against the priority of the family-group name ORBULINIDAE Schultze, 1854, thereby tending to promote greater stability and universality of nomenclature. The type genera, *Globigerina* d'Orbigny, 1826, and *Orbulina* d'Orbigny, 1839, are currently placed in the family GLOBIGERINIDAE (Order Foraminifera, Class Rhizopoda). They are pelagic in habitat, but the minute calcareous tests of dead individuals accumulate on the bottom over wide areas at depths of less than 5,000 metres in all present-day oceans, together with the calcareous tests of other genera of the family GLOBIGERINIDAE and the allied family GLOBOROTALIIDAE. The genus *Globigerina* is the most abundant and widespread, hence oceanographers characterize these accumulations as *Globigerina* ooze (if the deposit is over 30 per cent. calcareous) or *Globigerina* mud (if the deposit is under 30 per cent. calcareous). Geologically, *Globigerina* and the GLOBIGERINIDAE range from the Lower Cretaceous to the Recent, while *Orbulina* ranges from the Miocene to the Recent. Because of their pelagic habitat and consequent wide geographic range, the genera and species of the GLOBIGERINIDAE make useful index fossils for paleontologists and stratigraphers. It is evident that marine biologists, oceanographers, paleontologists and stratigraphers will be interested in this case and will desire to stabilize the pertinent nomenclature. Brooks F. Ellis and Angelina R. Messina (1940 to present date, *Catalogue of Foraminifera*, American Museum of Natural History, New York, looseleaf, pages not numbered) have so far listed 204 species and, varieties originally described as *Globigerina* and 43 species and varieties originally described as *Orbulina*. Perhaps half of these species and varieties are currently assigned to other genera and a few do not even belong in the Foraminifera.

2. In 1826, Alcide Dessalines d'Orbigny ("Tableau méthodique de la classe de Céphalopodes", *Annales des Sciences Naturelles*, Paris, ser. 1, vol. 7, pp. 271, 277) established the genus *Globigerina* with twelve new species, nine of which were *nomina nuda* and the remaining three valid, indications being provided by references to the non-Linnaean author Soldani (1789—1799, *Testaceographia ac Zoophytopgraphia*, Siena, Italy). One of the three valid species was *Globigerina bulloides*, collected from the Adriatic Sea near Rimini, Italy. The genus *Globigerina* was assigned to the division Turbinoïdes of the family Hélicostègues. Both of these family-group names have French vernacular terminations and are therefore invalid as well as obsolete.

3. In 1839, d'Orbigny (*Foraminifères*; in Ramón de la Sagra: *Histoire physique, politique et naturelle de l'Ile de Cuba*, A. Bertrand, Paris, p. 2) created the nominal genus *Orbulina* containing the single new species *Orbulina universa* (: 3). This species was described in the above-mentioned work, but the plates were published separately. It is clear that *Orbulina universa* d'Orbigny, 1839, is the type species of *Orbulina* d'Orbigny, 1839, by monotypy. *Globigerina* was then assigned to the family Turbinoïdes of the order Hélicostègues, while *Orbulina* was placed in the new order Monostègues, which was not divided into families.

4. In 1840, a Spanish edition of d'Orbigny's 1839 publication was issued with plates included (*Foraminiferas*; in Ramón de la Sagra: *Historia física, política y natural de la Isla de Cuba*, A. Bertrand, Paris, pp. 28, 34—35, pl. 1, fig. 1). *Globigerina* was placed in the family TURBINOÏDAE of the order Helicostegas and *Orbulina* in the order Monostegas, which was not divided into families. Helicostegas and Monostegas are the Spanish vernacular equivalents of the French vernacular Hélicostègues and Monostègues. Although Latinized, the family-group name TURBINOÏDAE is invalid because it is not based upon an included type genus. The name TURBINOÏDAE is apparently derived from the mode of coiling, which is trochoidal like that of the gastropod genus *Turbo* of the family TURBINIDAE. The TURBINOÏDAE were contrasted with the other family of the Helicostegas, the NAUTILOÏDAE, which coil planispirally like the cephalopod genus *Nautilus* of the family NAUTILIDAE.

5. In 1854, Max Sigmund Schultze (*Über den Organismus der Polythalamien (Foraminiferen) nebst Bemerkungen über die Rhizopoden im allgemeinen*, Engelmann, Leipzig, p. 52) erected the family ORBULINIDA in his Sub-Order Monothalamia of his order Testacea. The type genus is *Orbulina* d'Orbigny, 1839. The genus *Globigerina* d'Orbigny, 1826, was placed in another family in the Sub-Order Polythalamia.

6. In 1862, William B. Carpenter, William K. Parker and T. Rupert Jones (*Introduction to the Study of the Foraminifera*, Ray Society, London, pp. 171—175) established the family GLOBIGERINIDA with *Globigerina* d'Orbigny, 1826, as the type genus. The family contained three incorrectly spelled subfamilies: GLOBIGERINAE, ROTALINAE and TEXTULARINAE. The genus *Orbulina* d'Orbigny, 1839, was also placed in the family GLOBIGERINIDA but was not included in any of the three subfamilies.

7. In 1865, William K. Parker, T. Rupert Jones and Henry B. Brady ("On the nomenclature of the foraminifera; Part 12 (misprinted as 'Part 10 continued'), The species enumerated by d'Orbigny in the 'Annales des Sciences Naturelles', vol. 7, 1826", *Annals and Magazine of Natural History*, London, ser. 3, vol. 16, p. 36) designated *Globigerina bulloides* d'Orbigny, 1826, as the type species of *Globigerina* d'Orbigny, 1826.

8. In February 1876, T. Rupert Jones ("Remarks on the foraminifera, with especial reference to their variability of form, illustrated by the Cristellarians", *Monthly Micr. Journal*, London, vol. 15, no. 86, pp. 89—92) divided the family GLOBIGERINIDA into four subfamilies, the typical subfamily being termed the GLOBIGERININA.

9. In 1876, Karl A. Zittel (*Handbuch der Paläontologie*, R. Oldenbourg, München and Leipzig, vol. 1, pt. 1, pp. 61—106) was the first to emend the name GLOBIGERINIDA to the correct form GLOBIGERINIDAE. He included both *Globigerina* and *Orbulina* in the family. The typical subfamily was called the GLOBIGERINAE.

10. Conrad Schwager (1876, "Saggio di una classificazione dei foraminiferi, avuto riguardo alle loro famiglie naturali", *Boll. R. Com. geol. Ital.*, Roma, vol. 7, pp. 475—485; 1877, "Quadro del proposto sistema di classificazione dei foraminiferi con guscio", *Boll. R. Com. geol. Ital.*, Roma, vol. 8, pp. 18—27) established the superfamily GLOBIGERINIDEA with the GLOBIGERINIDAE as the typical family.

11. In 1880, O. Bütschli ("System der Rhizopoda" in H. G. Bronn's *Klassen und Ordnungen des Thier-Reichs*, C. F. Winter, Leipzig and Heidelberg, vol. 1 (Protozoa), pp. 172—217) included in his classification the "family GLOBIGERININAE Carpenter" and the subfamily GLOBIGERINAE Carpenter.

12. In 1884, Henry B. Brady (*Report on the Foraminifera in Voyage of H.M.S. "Challenger"*, Zoology, London, vol. 9, p. 71), like Zittel, included both *Globigerina* and *Orbulina* in the family GLOBIGERINIDAE. He did not, however, divide the family into subfamilies.

13. In 1927, Joseph A. Cushman (*An Outline of a Re-Classification of the Foraminifera*, Contributions from the Cushman Laboratory for Foraminiferal Research, Sharon, Massachusetts, vol. 3, pt. 1, pp. 87—91) divided the family GLOBIGERINIDAE into four subfamilies, the first two of which are the GLOBIGERININAE and the ORBULININAE. This arrangement was maintained without change throughout four editions (1928, 1933, 1940 and 1948) of Cushman's text-book, *Foraminifera, Their Classification and Economic Use*, and is the one still preferred by most authors.

14. In 1933, Jesse J. Galloway (*Manual of Foraminifera*, Principia Press, Inc., Bloomington, Indiana, p. 326), recognizing the priority of Schultze, correctly emended Schultze's name ORBULINIDA to ORBULINIDAE and employed it instead of the current name GLOBIGERINIDAE. This usage has never become popular. Galloway did not divide the ORBULINIDAE into subfamilies.

15. In 1936, Frederick Chapman and Walter J. Parr ("A Classification of the Foraminifera", *Proceedings of the Royal Society of Victoria*, new series, vol. 49, pt. 1, p. 145) divided the family ORBULINIDAE into six subfamilies, the first two being the GLOBIGERININAE and the ORBULININAE. In 1937, the same authors (*Foraminifera in Australasian Antarctic Expedition, Scientific Reports*, Series C—Zoology and Botany, vol. 1, pt. 2, pp. 11—114) reverted to the family name GLOBIGERINIDAE with the typical subfamily GLOBIGERININAE including both *Globigerina* and *Orbulina*.

16. In 1945, Martin F. Glaessner (*Principles of Micropaleontology*, Melbourne University Press, pp. 148—150) divided the family GLOBIGERINIDAE into the subfamily GLOBIGERININAE, containing both *Globigerina* and *Orbulina*, and the subfamily Hantkenininae.

17. There is obviously a conflict between current usage and priority. Current usage recognizes the family name GLOBIGERINIDAE Carpenter, Parker and Jones, 1862, while priority demands the use of the name ORBULINIDAE Schultze, 1854. The *Copenhagen Decisions on Zoological Nomenclature*, Paragraph 45, Section 1, state: "The naming of units belonging to the Family-Group of categories shall be governed by priority, except that, in

cases where priority is in conflict with current usage, current usage is to be maintained, wherever, in the opinion of the individual taxonomist, this would lead to greater stability and universality of nomenclature than would the strict application of priority".

18. In order to maintain current usage and thereby to promote greater stability and universality in the nomenclature of the Foraminifera, the International Commission on Zoological Nomenclature is requested:—

- (1) to use its Plenary Powers to direct that the family-group name **ORBULINIDAE** (correction of **ORBULINIDA**) Schultze, 1854, is not to be given precedence over the family-group name **GLOBIGERINIDAE** (correction of **GLOBIGERINIDA**) Carpenter, Parker and Jones, 1862, by any author who, on taxonomic grounds, is of the opinion that the genera which are the respective type genera of the foregoing nominal family-group taxa are both referable to one and the same family-group taxon;
- (2) to place the under-mentioned generic names on the *Official List of Generic Names in Zoology*:—
 - (a) *Globigerina* d'Orbigny, 1826 (gender: feminine) (type species, by selection by Parker, Jones and Brady (1865): *Globigerina bulloides* d'Orbigny, 1826);
 - (b) *Orbulina* d'Orbigny, 1839 (gender: feminine) (type species, by monotypy: *Orbulina universa* d'Orbigny, 1839);
- (3) to place the under-mentioned generic name on the *Official Index of Rejected and Invalid Generic Names in Zoology*:—
 - (a) *Globigena* Sowerby, 1842 (*A Conchological Manual* (Ed. 2): 154), an erroneous subsequent spelling of *Globigerina* d'Orbigny, 1826;
- (4) to place the under-mentioned specific names on the *Official List of Specific Names in Zoology*:—
 - (a) *bulloides* d'Orbigny, 1926, as published in the combination *Globigerina bulloides* (specific name of type species of *Globigerina* d'Orbigny, 1826);
 - (b) *universa* d'Orbigny, 1839, as published in the combination *Orbulina universa* (specific name of type species of *Orbulina* d'Orbigny, 1839);

(5) to place the under-mentioned family-group names on the *Official List of Family-Group Names in Zoology* :—

(a) GLOBIGERINIDAE (correction of GLOBIGERINIDA) Carpenter, Parker and Jones, 1862 (type genus : *Globigerina* d'Orbigny, 1826) (first published in correct form as GLOBIGERINIDAE by Zittel, 1876) ;

(b) ORBULINIDAE (correction of ORBULINIDA) Schultze, 1854, subject to the restriction prescribed under the Plenary Powers in (1) above (type genus : *Orbulina* d'Orbigny, 1839) (first published in correct form as ORBULININAE by Cushman, 1927) ;

(6) to place the under-mentioned family-group names on the *Official Index of Rejected and Invalid Family-Group Names in Zoology* :—

(a) ORBULINIDA Schultze, 1854 (an Invalid Original Spelling for ORBULINIDAE) ;

(b) GLOBIGERINIDA Carpenter, Parker and Jones, 1862 (an Invalid Original Spelling for GLOBIGERINIDAE) ;

(c) TURBINOIDAE de la Sagra (R.), 1840, *in* d'Orbigny (invalid because not based on the name of type genus).

**SUPPORT FOR THE APPLICATION BY W. J. REES REGARDING
THE GENERIC NAME "AURELIA" LAMARCK, 1816 (CLASS
SCYPHOZOA)**

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(Commission Reference : Z.N.(S.) 1032)

(For the proposal in this case see *Bull. zool. Nomencl.* 13 : 26—28)

(Letter dated 20th April 1957)

It seems to me advisable to validate the name *Aurelia* Lamarck, 1816, and suppress *Aurellia* Péron & Lesueur, [1810] ; the generic name *Aurelia* Lamarck, 1816, and the specific name *aurita* Linnaeus, 1758, as in the combination *Medusa aurita*, should be placed in the *Official Lists of Generic and Specific Names in Zoology*, respectively ; the generic name *Aurellia* should be rejected ; the specific name *rosea* Péron & Lesueur, [1810], as in the combination *Aurellia rosea*, should be considered a synonym of *A. aurita* Linnaeus, 1758, as in the above-mentioned combination *Medusa aurita* ; the family-group name to be placed on the *Official List of Family-Group Names in Zoology* should be AURELIIDAE Agassiz, 1862 ; type genus : *Aurelia* Lamarck, 1816 ; the family-group name AURELIIDAE should be rejected.